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B4B  
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## (54) Safety razor

(57) The razor has two replaceable, standard double-edged blades 3,4, separated by a spacer 5, e.g. of plastics material, and sandwiched between a base 6 and a top 7, both of e.g. stainless steel. The spacer has tabs (16, Fig. 2) at each corner, projecting beyond the blade edges to prevent the blade corners nicking the user's skin. A handle 1 is secured to a threaded shaft 11 on the top 7 by means of a knurled fastener 14 and is slotted at 15 to allow the head to move relative to the handle to conform to facial contours.

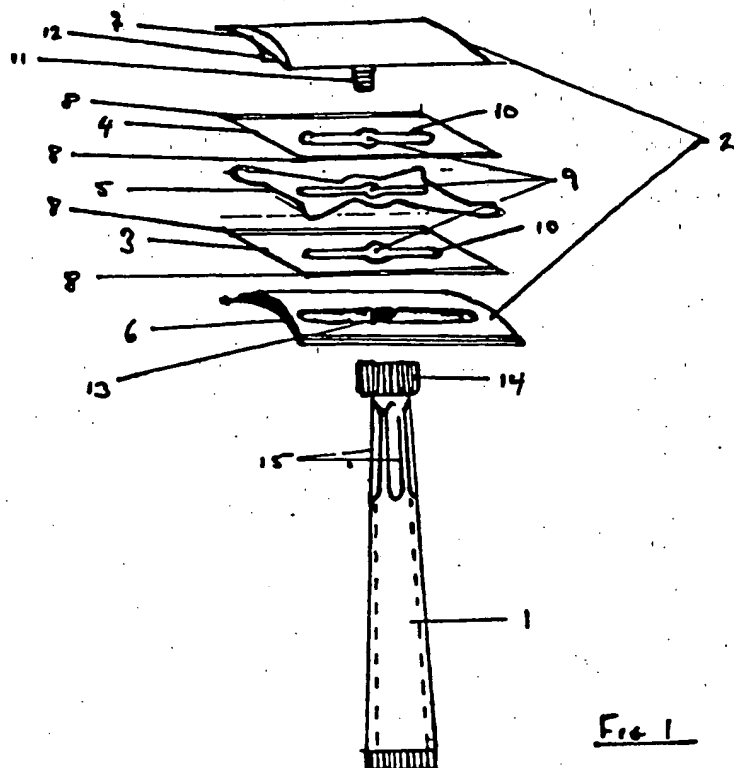


Fig 1

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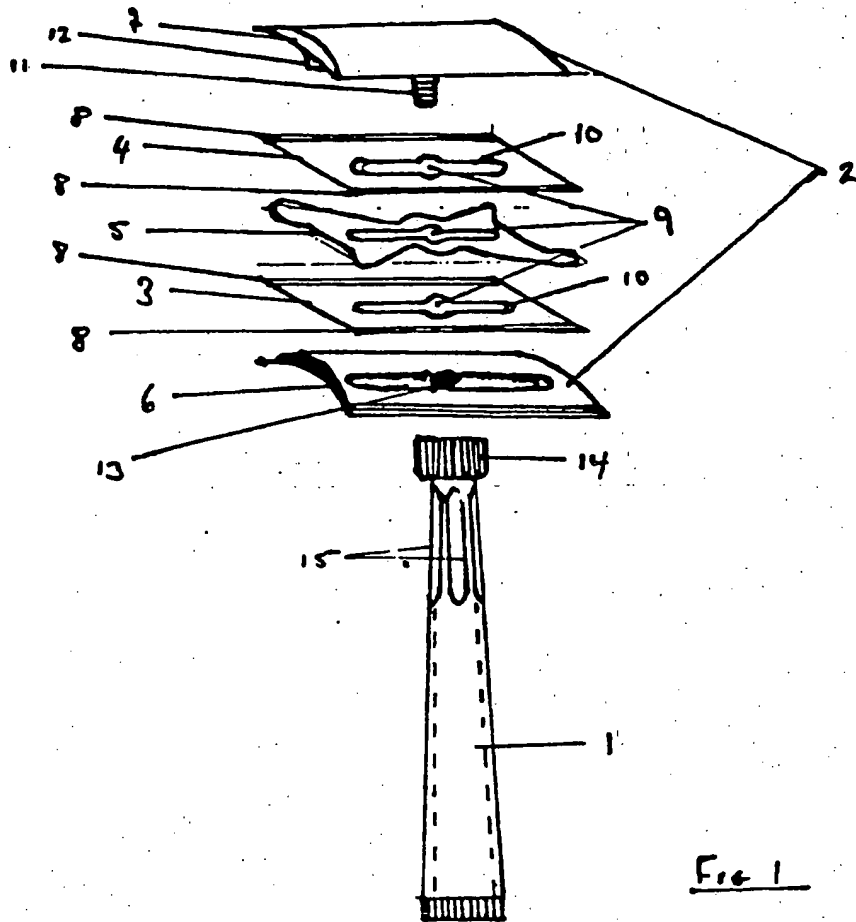


Fig 1

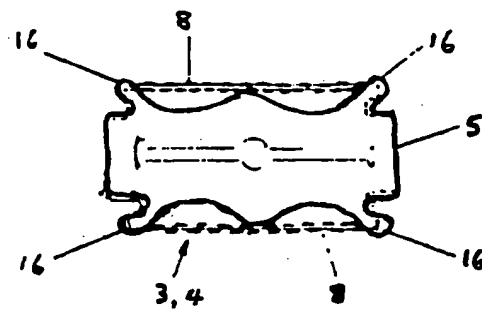


Fig 2

## SPECIFICATION

### A safety razor

5 The present invention relates to a safety razor and, in particular, to a two blade safety razor. The present invention also provides a spacer for use in spacing the blades in the two blade safety razor.

10 With conventional plastic disposable two blade safety razors once the blades become blunted, or the space between the blades becomes clogged with dried soap and stubble the complete razor, or, at least, the razor head, becomes useless and has to be thrown away as it is not possible to remove and re-  
15 place the blades alone. Moreover, conventional plastic two blade safety razors are so light that they tend to glide freely over the shavers skin and stubble, rather than stretching the skin to give the best shaving action.

It is an object of the present invention to provide a two blade safety razor in which the blades can be removed and replaced.

25 It is a further object of the present invention to provide a spacer for use in spacing the blades in the two blade safety razor.

According to a first aspect of the present invention there is provided a safety razor comprising a handle, a razor head consisting of at least two releaseable clamping members and two razor blades clamped between the two clamping members with the cutting edges of the two blades extending substantially parallel to each other, wherein between the two razor blades there is provided a spacer member which extends beyond the cutting edges of the two blades at each end of the cutting edges.

40 Preferably, the head of the razor is comprised of a relatively heavy material, for example, a metal. Ideally, the head is made of stainless steel.

Preferably, the razor blades are standard replaceable doubled edged razor blades.

45 Preferably, the head of the razor is capable of moving relative to the handle. To this end the handle is comprised of a tough, but relatively flexible material which can be twisted and bent. To enhance the flexibility of the handle a plurality of holes or slots may be provided through it close to where it joins the head of the razor.

Preferably, the spacer is plate-like and is comprised of a plastics material.

55 Preferably, the spacer comprises tabs which extend beyond the cutting edges of the two blades at each end of the cutting edges, which tabs are rounded to prevent them catching the shavers skin in use. The spacer supports the blades, but does not obstruct the cutting edges thereof.

60 According to a second aspect of the present invention there is provided a spacer for spacing two blades in a safety razor which

spacer member is adapted in use to extend beyond the cutting edges of the two blades at each end of the cutting edges.

70 An embodiment of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 shows an exploded view of a safety razor according to the present invention;

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Figure 2 shows a plan view of the spacer used in the safety razor of Fig. 1.

Referring to Fig. 1 of the accompanying drawings there is shown an exploded view of a two blade safety razor comprising a handle 1 and head 2, two razor blades 3,4 and a spacer 5. The head 2 is comprised of a stainless steel base 6 and top 7, between which the two blades 3,4 and the spacer 5 are sandwiched together. The base 6 and the top 7 are each contoured and dimensioned to ensure that the cutting edges 8 of the two blades 3,4 extend beyond the sides of the razor head 2. The blades 3,4 are standard double edged blades and as such comprise a hole 9 through the centre thereof, and extending to each side of the hole 9 a slot 10. The spacer 5 also comprises a hole 9 through the centre and extending to each side of the hole 9 a slot 10, and in this respect it matches the blades 3,4. The hole 9 and the slots 10 engage with a threaded shaft 11 and blade keying means 12 integral with the underside of the top 7 to ensure that the blades 3,4 and the spacer 5 cannot move between the top 7 and the base 6 when these two elements of the head 2 are clamped together. The threaded shaft 11 also passes through a hole 13 in the base 6 of the head 2 and screws into a threaded hole provided in a knurled fastener 14 secured to the end of the handle 1. By screwing the knurled fastener 14 uptight to the base 6 the head 2 of the razor is securely clamped together, but can be taken apart at any time to allow the blades 3, 4 to be replaced or simply cleaned.

110 The handle 1 is comprised of a relatively tough material, but is capable of being bent and twisted towards the end carrying the knurled fastener 14. This allows the head 2 to pivot and twist on the end of the handle 1 to match the contour of the shavers skin. This flexibility in the handle 1 is provided by slots 15 in the handle 1 immediately adjacent the knurled fastener 14. Since the slots 15 weaken the handle in this region it is always advisable to tighten the knurled fastener 14 up to the base 6 by twisting the knurled fastener 14 itself rather than the handle 1.

120 The spacer 5 is located between the two razor blades 3,4 and is thick enough to ensure that the two blades 3,4 are kept far enough apart to give a double cutting action, yet close enough together to prevent the blades 3,4, cutting or nicking the user. The cutting

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edges 8 of the two blades 3,4 lie substantially parallel to each other and are not offset. As such when the blades are brought into contact with the skin the leading blade tends to lever the skin behind it up towards the lagging blade thus giving an improved cutting action. As will be more readily apparent with reference to Fig. 2, the spacer 5 has rounded tabs 16 at each corner which extend beyond the cutting edges of the two razor blades at a respective pair of adjacent corners. The tabs 16 do not extend far enough beyond the cutting edges 8 of the two blades to prevent them from shaving, but sufficiently far to prevent the corners from nicking the skin and to engage with the skin and assist the blades in stretching it as the razor is moved over it. Between the tabs 16 the sides of the spacer 5 are recessed so as not to obstruct the cutting edges of the blades 3,4, but still extend far enough forward to support the blades and prevent them from flexing.

In use the razor is used like any two blade razor, but its design allows the blades to be removed and replaced, as well as ensuring a much smoother shaving action. As it uses standard double edged blades, blades for the razor are always freely available. To replace the blades all that is required is to unscrew the handle from the threaded shaft to release the clamping elements of the razor head. The stretching of the skin caused by the two blades, enhanced by the tabs of the spacer, improves substantially the shaving action of the razor. Moreover, the weight of the head further assists in stretching the skin. Finally, the flexibility in the handle allows the head 2 to be pivoted and twisted relative to the handle thereby allowing the head to reach the awkward contours of the users face.

#### CLAIMS

1. A safety razor provided with two standard double edged razor blades, separated by a wafer thin plastic spacer, prevents the vee depression caused by the shaving edge of the first blade on the tender human skin from immediately springing back to the normal skin surface by the pincer like grip on the skin provided by the wafer thin closeness of the shaving edge of the second blade, to give a closer than close shave. In other words the first shaving edge gives the moderate shave, while the second shaving edge acting on the gripped skin between the two blades provides the almost perfect shave.

2. A second concept provided in this improved design of razor, are the tabs introduced to the plastic space giving complete safety cover to the eight corners of the blades from nicks and cuts on the skin.

3. A third concept linked to this razor, is the weakened plastic handle, allowing a limited angular movement on the shaving head, to adapt to the different facial skin contours.

4. With a closer than close shave as claimed in claim 1 less growth between shaves.

5. Standard double edge razor blades freely available world wide, cutting out all. The hassle associated with the so many different types of razors and razor blades on the market today.

6. Admittedly using one blade instead of two, and using concepts as claimed in claims 2 and 3 would give an improved moderate shave, but again this consistent closer than close shave could not be achieved.

#### CLAIMS

Amendments to the claims have been filed, and have the following effect:—

Claims ALL above have been deleted or textually amended.

New or textually amended claims have been filed as follows:—

1. A safety razor of certain conventional types that have a ridge on the underside of the top clamping member, the ridge being dimensioned in length, width and depth, to be a close but non interfering fit to the slots present on standard double edge safety razor blades and further the ridge to be co-axial to both the external screw thread of this clamping member, and the clamping faces of both metal members when tightened for shaving, but added to this conventional razor are three new concepts namely (a) an extra standard single double edge razor blade (b) a specially designed wafer thin flexible spacer and (c) a tough plastic tubular handle with a metal screwthread insert on the upset end of handle, the means for tightening the razor for shaving, with spiral slots cut out on the wall of handle to provide a limited biangular float to shaving head.

2. A safety razor as claimed in claim 1 with two standard safety razor blades separated by a wafer thin flexible spacer made of a plastic material that will not appreciably be affected dimensionally by very hot water and of a specific thickness of .020" (.50mm) thereby allowing the second blade to actually grip the tender facial skin and shave off any fine bristle left from the first blade during stroke of razor, to give a closer than close shave.

3. A safety razor as claimed in claims 1 and 2 wherein this smooth wafer thin plastic spacer of .020" and toleranced +.000/- .003 with a corresponding slot dimensioned in length and width cut out to that of the slot in a standard double edged razor blade, with the contour of the periphery designed specially to provide two salient features of this improved safety razor, one being the curvature to maintain parallelism on length of shaving edges, with the other feature being the tabs on the four corners of spacer providing foolproof safety on the shaving stroke when the razor is

fully tightened, preventing nicks and cuts on the skin from the eight corners of the two blades.

4. A safety razor as claimed in claims 1, 2, 3 with weakened spiral slotted plastic tubular tapered handle, for screw thread tightening and releasing of clamping members, and providing a limited biangular float to the metal shaving head to cover irregular facial contours.
- 10 5. A safety razor that gives the user of razor the option in claim 2 of one standard razor blade only and giving a moderate and forfeiting a closer than close shave but with claims 3 and 4 in use giving an improved
- 15 moderate shave.
6. A safety razor as claimed in the preceding claims where the main head consisting of the top and bottom metal members are virtually everlasting.
- 20 7. A safety razor as claimed in the preceding claims, with the standard double edged safety razor blades used, freely available worldwide.
8. A safety razor as claimed in preceding
- 25 claims, with less growth between shaves, thereby decreasing wear on cutting edges of blades.